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10/733,080	12/11/2003	Pascual Perez	A36102-PCT-USA-A	9528

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EXAMINER	
KUMAR, VINOD	
ART UNIT	PAPER NUMBER
1638	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/733,080	PEREZ ET AL.	
	Examiner	Art Unit	
	Vinod Kumar	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *15-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 June 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/18/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of Group I, claims 1-14 in the paper filed on November 3, 2006 is acknowledged.

Applicant argues that Groups I and III should be considered together as both relate to the same method. Applicant further argues that claim 18 relates to a vector as used in claim 1, claim 19 is a host cell comprising said vector, and claim 20 is a plant comprising expression cassettes recited in claim 1, there would be no additional search burden if these claims were considered with Group I (response, page 7, line 14 through line 4 of page 8).

Applicant's arguments were fully considered but were not found persuasive. Inventions of Groups I and III use patentably distinct method steps. For example, invention of Group III requires producing calluses from immature embryos and visually selecting the calluses containing the T-DNA and the selection marker. Furthermore, Office maintains that searching the inventions of Groups I and II or I and III together would result in undue search burden. For example, searching the invention of Group II would result in additional search burden for the art pertaining to any transgenic monocotyledon plant, vector or any host cell that comprises a gene of interest free of any foreign ancillary sequence. Likewise, searching the invention of Group III would result in additional search burden for the art pertaining to producing embryogenic calluses which are free from foreign ancillary sequence. Accordingly, claims 1-14 are being examined on merits in the instant Office action. Claims 15-21 are withdrawn from

further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Elected claims must be amended to remove non-elected subject matter. This restriction is made FINAL.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

2. An initialed and dated copy of Applicant's IDS form 1449 filed October 18, 2004 is attached to the instant Office action.

Priority

3. Acknowledgment is made of Applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy of Application No. France 01/07597, filed 11/07/2001 has been received.

Drawings

4. Drawings are objected to because they fail to comply with 37CFR 1.83.

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figures 1 and 2 have sequences that are included in the specification and sequence listing. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

5. Claim 1 objected to because of the following informalities:

In claim 1, line 16, replace "transpose gene" after "the" and before "interrupts" with --said gene encoding the endogenous active transposase--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3, and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in their recitation "gene" which is confusing since the limitation "gene" implies that the structure comprises the coding sequence and the associated promoter, terminator and enhancer encoding regions are also a part of the structure (see The Federal Register, Vol. 66, No. 4, Friday, January 5, 2001 at page 1108, left column, Endnote 13). In the instant case, Applicants do not appear to describe such gene associated nucleotide sequences. It is suggested that "gene" be amended to "coding sequence". All subsequent recitations of "gene" are also rejected. Claims 4-11 and 14 are also rejected because they fail to overcome this deficiency.

Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in their recitation "R-nj::Ac line" in claim 10, and "W22/R-nj As line", "W22/R-nj Ag line", and "A188/R-nj::Ac line" in claim 11 which is confusing since it is unclear what these lines are referring to. Page 15, paragraph 0055 of specification describes that the recitations represent homozygous lines derived from different genetic backgrounds. However, the specification does not define what the abbreviations are referring to. The meaning of the recitations are not apparent to one skilled in the art. See MPEP 2173.05(a) [R-3].

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in its recitation "obtaining F2 plant sowing based on these events" which is confusing since it is unclear what the recitation is referring to. It is unclear which "events" are being referred to.

Appropriate action/clarifications are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for obtaining a transgenic monocotyledon plant containing a gene of interest that is free of foreign ancillary sequence comprising using mobilizable sequence of Dt, Mu, Ac/Ds or CACTA transposable elements, does not reasonably provide enablement for using any transposable element. The claim(s) contain subject matter which was not described in the specification in such a way as to enable one skilled in the art which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The claims are broadly drawn to a method for obtaining a transgenic monocotyledon plant containing a gene of interest (i) that is free of foreign ancillary sequence comprising: (a) contacting a plant or a cell of a plant that lacks an active transposase, with a transformation vector comprising: (1) a first expression cassette comprising a gene of interest (i) that is not operably linked to mobilizable sequences of a transposon; and (2) a second expression cassette comprising a nucleotide sequence encoding a selection marker (ii) that is operably linked to the mobilizable sequences of a transposon, wherein said nucleotide sequence encoding a selection marker (ii) is

operably linked to a plant expression control sequence, to obtain primary transformants; (b) growing the primary transformants under selective conditions to obtain at least one transformed parental plant or plant cell having the selection marker gene (ii); (c) crossing the selected transformed parental plant with a second parental plant, said second plant having within its genome a gene encoding an endogenous active transposase, wherein the transpose gene interrupts expression of a gene encoding a phenotypic marker for excision (iii), such that an F1 generation is obtained; (d) selecting a plant or cell from the F1 generation having the gene of interest (i) but lacking the selection marker gene (ii); and (e) regenerating a plant from the plant or cell selected in (d), such that a transgenic monocotyledon plant containing a gene of interest (i) that is free of foreign ancillary sequence is produced.

The specification teaches a method of producing a transgenic corn plant that is free of foreign ancillary sequence nptII (marker gene) using Ac/Ds transposable element based system. The specification teaches production of an Ac inactive A188 line of corn stably transformed with DS::M element, crossing with an R-nj::Ac line which has the Ac transposase inserted into phenotypic marker gene, selection of the events exhibiting an excision of the Ds::MS element, and production of male sterile plants lacking the kanamycin marker gene. See pages 19-46, examples 1-4.

Claim 1 is directed to a method for obtaining a transgenic monocotyledon plant free of foreign ancillary sequence comprising using any transposon element. Prior art and specification teach that transposable sequences derived from Dt, Mu, Ac/Ds or CACTA transposable elements are active and functional among monocotyledonous

plants. Bennetzen (Plant Molecular biology, 42:251-269, 2000) teach that transposable elements are differentially active in different tissues, at different times in development, and/or under different induction regimes. The reference further teaches that transposable elements in plants are subjected to a complex set of regulation(s) achieved through self inactivation and/or host-determined (or, at least, host assisted) process of epigenetic silencing. It would have been highly unpredictable at the time the claimed invention was made that transposable elements derived from diverse sources, such as, bacteria, yeast, Drosophila, humans etc., can be used in the instantly claimed method of making a transgenic monocotyledonous plant free of foreign ancillary sequence. In the absence of adequate guidance, undue experimentation would have been required by a skilled artisan at the time claimed invention was made to determine how to practice the instantly claimed method using mobilizable sequences derived from any transposable element. See Genentech, Inc. v. Novo Nordisk, A/S, USPQ2d 1001, 1005 (Fed. Cir. 1997), which teaches that "the specification, not the knowledge of one skilled in the art" must supply the enabling aspects of the invention. Therefore, it is maintained that the claims are not commensurate in scope with the teachings of the specification.

Given the breadth of the claims, unpredictability of the art and lack of guidance of the specification, as discussed above, undue experimentation would be required by one skilled in the art to make and use of claimed invention.

8. Claims 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention appears to employ novel biological material comprising transposon tagged lines R-nj::Ac, W22/R-nj AS, W22/R-nj Ag and A188/R-nj::Ac. Example 1-4 describes use of R-nj::Ac, W22/R-nj AS, W22/R-nj Ag and A188/R-nj::Ac lines. Since the biological material comprising R-nj::Ac, W22/R-nj AS, W22/R-nj Ag and A188/R-nj::Ac breeding lines of corn are essential to the claimed invention it must be obtainable by a repeatable method set forth in the specification or otherwise readily available to the public. If the biological material is so obtainable or available, the requirements of 35 U.S.C. § 112 may be satisfied by a deposit of the biological material comprising pMYC3212. The specification does not disclose a repeatable process to obtain the biological material and it is not apparent if the biological material is readily available to the public. If the deposit is made under the Budapest Treaty, then an affidavit or declaration by Applicant, or a statement by an attorney of record over his or her signature and registration number, stating that the specific biological material has been deposited under the Budapest Treaty and that the biological material will be irrevocably and without restriction or condition released to the public upon the issuance of a patent, would satisfy the deposit requirement made herein. If the deposit has not been made under the Budapest Treaty, then in order to certify that the deposit meets the criteria set forth in 37 C.F.R. §§ 1.801-1.809, Applicant may provide assurance of compliance by

an affidavit or declaration, or by a statement by an attorney of record over his or her signature and registration number, showing that:

(a) during the pendency of this application, access to the invention will be afforded to the Commissioner upon request;

(b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;

(c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the effective life of the patent, whichever is longer;

(d) a test of the viability of the biological material at the time of deposit will be made (see 37 C.F.R. § 1.807); and

(e) the deposit will be replaced if it should ever become inviable.

Applicant's attention is directed to M.P.E.P. §2400 in general, and specifically to §2411.05, as well as to 37 C.F.R. § 1.809(d), wherein it is set forth that "the specification shall contain the accession number for the deposit, the date of the deposit, the name and address of the depository, and a description of the deposited material sufficient to specifically identify it and to permit examination." The specification should be amended to include this information, however, Applicant is cautioned to avoid the entry of new matter into the specification by adding any other information. Finally, Applicant is advised that the address for the ATCC has recently changed, and that the new address should appear in the specification. The new address is:

American Type Culture Collection

10801 University Boulevard

Manassas, VA 20110-2209

9. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to a method for obtaining a transgenic monocotyledon plant containing a gene of interest (i) that is free of foreign ancillary sequence comprising: (a) contacting a plant or a cell of a plant that lacks an active transposase, with a transformation vector comprising: (1) a first expression cassette comprising a gene of interest (i) that is not operably linked to mobilizable sequences of a transposon; and (2) a second expression cassette comprising a nucleotide sequence encoding a selection marker (ii) that is operably linked to the mobilizable sequences of a transposon, wherein said nucleotide sequence encoding a selection marker (ii) is operably linked to a plant expression control sequence, to obtain primary transformants; (b) growing the primary transformants under selective conditions to obtain at least one transformed parental plant or plant cell having the selection marker gene (ii); (c) crossing the selected transformed parental plant with a second parental plant, said second plant having within its genome a gene encoding an endogenous active transposase, wherein the transpose gene interrupts expression of a gene encoding a phenotypic marker for excision (iii), such that an F1 generation is obtained; (d) selecting a plant or cell from the F1 generation having the gene of interest (i) but lacking the

selection marker gene (ii); and (e) regenerating a plant from the plant or cell selected in (d), such that a transgenic monocotyledon plant containing a gene of interest (i) that is free of foreign ancillary sequence is produced.

The specification describes a method of producing a transgenic corn plant that is free of foreign ancillary sequence nptII (marker gene) using Ac/Ds transposable element based system. The specification describes production of an Ac inactive A188 line of corn stably transformed with DS::M element, crossing with an R-nj::Ac line which has the Ac transposase inserted into phenotypic marker gene, selection of the events exhibiting an excision of the Ds::MS element, and production of male sterile plants lacking the kanamycin marker gene. See pages 19-46, examples 1-4.

Claim 1 is directed to a method for obtaining a transgenic monocotyledon plant free of foreign ancillary sequence comprising using any transposon element. Claim 1 is also directed to a method for obtaining a transgenic monocotyledon plant free of foreign ancillary sequence comprising transforming any monocotyledonous plant lacking active transposase. The specification does not have adequate written description for the genus of transposable elements active in monocots and genus of monocot plants lacking an active transposase, under current written description guidelines. Specification does not describe any of these sequences and one skilled in the art would not have reliably predicted the structure of these sequences based upon the disclosure of Ac inactive, A188 line stably transformed with the Ds::M, and R-nj::Ac, W22/R-nj AS, W22/R-nj Ag and A188/R-nj::Ac breeding lines of corn comprising endogenous active transposase.

Furthermore, said structures of the broadly claimed genus are not correlated to the function of producing a transgenic monocotyledonous plant that is free of foreign ancillary sequence. Furthermore, Applicants have failed to describe conserved functional domains that are shared by these undisclosed structures of Applicant's broadly claimed genus. Accordingly, one skilled in the art would not recognize from the disclosure that the applicant was in possession of the claimed genus. Due to lack of such disclosure, it is evident that Applicants have not established that invention was reduced to practice.

Accordingly, there is lack of adequate description to inform a skilled artisan that applicant was in possession of the claimed invention at the time of filing. See Written Description guidelines published in Federal Register/Vol.66, No. 4/Friday, January 5, 2001/Notices; p. 1099-1111.

Given the claim breadth and lack of guidance as discussed above, the specification does not provide written description of the genus broadly claimed. Accordingly, one skilled in the art would not have recognized Applicants to have been in possession of the claimed invention at the time of filing.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Perez et al. (PCT, WIPO, Publication No. WO 98/38323, Published September 3, 1998, Applicant's IDS, an English equivalent published as US Patent Application No. US2002/0157129A1 on 24 October 2002).

Perez et al. disclose a method for obtaining a transgenic monocotyledon (maize/corn) plant containing a gene of interest (male sterility, AMS) that is free of foreign ancillary sequence, wherein the method comprises the following steps: (a) transforming at least one active transposase-free plant cell with a transformation vector comprising two expression cassettes, one of which contains a nucleotide sequence of interest (male sterility, AMS), another a nucleotide sequence coding for a selection marker (nptII, antibiotic resistance or bar, herbicide resistance) flanked by the mobilisable sequences of a transposon (Ac/Ds), wherein said expression cassette containing a nucleotide sequence of interest (i) is outside said transposon element; (b) selecting the transformed plants using said selection marker; (c) cross-breeding a transformed plant with another plant from a line containing, in the genome thereof, a gene coding for an endogenous active transposase (Ac) and located within a phenotypic excision marker sequence encoding GUS, in order to produce an F1 individual or any subsequent progenies; (d) selecting, from the F1 generation, cells or individuals carrying the gene of interest and free of foreign ancillary sequences; (e)

regenerating plants using the cells or individuals selected in step (d). See in particular, claims 4-12; examples 1-12; figures 1-3; pages 1-16.

Accordingly, Perez et al. anticipate the claimed invention.

11. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoder et al. (PCT, WIPO, Publication No. WO 92/01370, Published February 6, 1992, Applicant's IDS).

Yoder et al. disclose a method for obtaining a transgenic monocotyledon (maize/corn) plant containing a gene of interest (insect control protein gene, *B.t.k.*) that is free of foreign ancillary sequence, wherein the method comprises the following steps: (a) transforming at least one active transposase-free plant cell with a transformation vector comprising two expression cassettes, one of which contains a nucleotide sequence of interest (insect control protein gene, *B.t.k.*), another a nucleotide sequence coding for a selection marker (nptII, antibiotic resistance or bar, herbicide resistance) flanked by the mobilisable sequences of a transposon (Ac/Ds), wherein said expression cassette containing a nucleotide sequence of interest (i) is outside said transposon element; (b) selecting the transformed plants using said selection marker; (c) cross-breeding a transformed plant with another plant from a line containing, in the genome thereof, a gene coding for an endogenous active transposase (Ac) and located within a phenotypic excision marker, in order to produce an F1 individual or any subsequent progenies; (d) selecting, from the F1 generation, cells or individuals carrying the gene of interest and free of foreign ancillary sequences; (e) regenerating plants using the cells

or individuals selected in step (d). See in particular, abstract; pages 3-5; figures 1-7; pages 6-24; examples I-III; claims 1-20.

Accordingly, Yoder et al. anticipate the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 9 and13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. (PCT, WIPO, Publication No. WO 98/38323 A, Published September 3, 1998, Applicant's IDS, an English equivalent published as US Patent Application No. US2002/0157129A1 on 24 October 2002 in view of Ishida et al. (Nature Biotechnology, 14(6):745-750, 1996).

Pascual et. al. teach a method for obtaining a transgenic monocotyledon (maize/corn) plant containing a gene of interest (male sterility, AMS) that is free of foreign ancillary sequence, wherein the method comprises the following steps: (a) transforming at least one active transposase-free plant cell with a transformation vector comprising two expression cassettes, one of which contains a nucleotide sequence of interest (male sterility, AMS) another a nucleotide sequence coding for a selection marker (nptII, antibiotic resistance or bar, herbicide resistance) flanked by the

mobilisable sequences of a transposon (Ac/Ds), wherein said expression cassette containing a nucleotide sequence of interest (i) is outside said transposon element; (b) selecting the transformed plants using said selection marker; (c) cross-breeding a transformed plant with another plant from a line containing, in the genome thereof, a gene coding for an endogenous active transposase (Ac) and located within a phenotypic excision marker sequence encoding GUS, in order to produce an F1 individual or any subsequent progenies; (d) selecting, from the F1 generation, cells or individuals carrying the gene of interest and free of foreign ancillary sequences; (e) regenerating plants using the cells or individuals selected in step (d). See in particular, claims 4-12; examples 1-12; figures 1-3, pages 1-16.

Perez et. al. do not teach transformation of corn immature embryos derived from inbred line A188.

Ishida et al. teach a method of maize transformation using immature embryos of inbred A188 line. The reference further teaches that immature embryos of inbred line A188 exhibits higher transformation frequency of transgenic plants regenerated from transformed calluses of said immature embryos. The reference further teaches that using embryogenic callus derived from inbred A188 line also resulted in high frequency of fertile corn plants. See in particular, abstract; page 746, table 1; page 747, figure 2; page 746, figure 3, table 3; page 749 through the end of 1st column of page 750.

It would have been prima facie obvious to one skilled in the art at the time the claimed invention was made to modify Pascual et. al. method of obtaining a transgenic corn plant containing a gene of interest that is free from foreign ancillary sequence by

using corn inbred line A188 taught by Ishida et al. The motivation to do so comes from Ishida et al. who teach that transformation of embryogenic callus A188 resulted in higher frequency of fertile transgenic corn plants, compared to embryogenic callus derived from other inbred lines.

Thus, the claimed invention as a whole was prima facie obvious over the combined teachings of the prior art.

Conclusions

13. Claims 1-14 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAVID H. KRUSE, PH.D.
PRIMARY EXAMINER